

**STATE FOREST LAND  
ENVIRONMENTAL CHECKLIST**

**Purpose of Checklist:**

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

**Instructions for Applicants:**

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at <http://www.dnr.wa.gov> under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

**Use of checklist for nonproject proposals:**

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

**A. BACKGROUND**

1. Name of proposed project, if applicable:  

*Timber Sale Name:* **Over Easy**

*Agreement #:* **30-076361**
2. Name of applicant: **Department of Natural Resources**
3. Address and phone number of applicant and contact person:  

**Northwest Region  
919 North Township Street  
Sedro-Woolley, WA 98284**

**Contact Person: Candace Johnson  
Telephone: (360) 856-3500**
4. Date checklist prepared: **06/02/04**
5. Agency requesting checklist: **Department of Natural Resources**
6. Proposed timing or schedule (including phasing, if applicable):
  - a. *Auction Date:* **02/28/05**
  - b. *Planned contract end date (but may be extended):* **09/30/06**
  - c. *Phasing:* **N/A**
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

**Timber Sale**

- a. *Site preparation:* **None planned**
- b. *Regeneration Method:* **Hand plant**
- c. *Vegetation Management:* **Hand slashing or chemical treatment needs will be assessed in second and fifth year after harvest.**
- d. *Thinning:* **Pre-commercial thinning treatment needs will be assessed in 15 to 18 years after planting.**

**Roads: All existing haul routes will remain active to access future harvest units and rock and to maintain forest stands.**

**Rock Pits and/or Sale: The P-1700 state rock pit will continue to be used as a rock source for road maintenance of managed roads and new road construction for timber harvests in the vicinity through the next decades.**

**Other: None**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.  

☐ 303 (d) – listed water body in WAU: ☐ temp ☐ sediment ☐ completed TMDL (total maximum daily load):

- ☐Landscape plan:
- ☐Watershed analysis:
- ☐Interdisciplinary team (ID Team) report:
- ☒Road design plan: Available at the NW Region office in Sedro-Woolley
- ☐Wildlife report:
- ☐Geotechnical report:
- ☒Other specialist report(s): Region Hydrologist/Soil Specialist Report, dated June 10, 2004; Region office
- ☐Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):
- ☐Rock pit plan:
- ☒Other: State Soil Survey 1992; Forest Resource Plan Environmental Impact Statement 1992; Final Habitat Conservation Plan and Environmental Impact Statement, dated 1997, available at Region Office.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. No

10. List any government approvals or permits that will be needed for your proposal, if known.

- ☐HPA ☒Burning permit ☐Shoreline permit ☐Incidental take permit ☒FPA # \_\_\_\_\_ ☐Other:

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

- a. Complete proposal description:  
**Sale and Harvest of Timber**  
Estimated Harvest Volume: 5,749 mbf.  
Area in Acres: 107 (95 Net, plus 2 acres of right-of-way)  
Largest unit: 95 acres. See timber sale map.  
Logging system: Cable/high lead, feller/buncher and/or tracked grapple-equipped excavator (shovel) along roads.  
**Roads:** Use of existing U-1000, P-1000, P-1500, P-1510, P-1700; reconstruction of P-1500 & P-1510; construction of Spur A (29 stations) and additional 34 stations of P-1510 to be abandoned after harvest. Construct seven stations along existing P-1510 and abandon 11 stations in order to eliminate a switchback section and shorten existing road.  
**Rock Pit /Excavation Source:** On-site rock may be used if found while excavating the road prism. Rock for surfacing, ballast and riprap may come from the existing P-1700 State rock pit.

Initial reconnaissance of this proposal included over 160 acres. In consideration of factors such as slope stability, existing roads, logical harvest breaks and rotation age of stands, this proposal was reduced to a 107 acre (gross) harvest area. Within the harvest boundary, seven percent of all trees equal to or greater than 12 inches diameter at breast height (dbh) are marked to remain standing as wildlife recruitment trees (12 acres in clumps), reducing net harvest acreage to 95 acres, plus 2 acres of right-of-way. The harvest area will be replanted with Douglas-fir and/or western redcedar seedlings the first planting season after harvest.

- b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives. DNR Forest Resource Inventory indicates that this stand originated from fire between 1882 and 1902. The stand is within the West-Cascade Hemlock zone and is dominated by conifers, including a mix of Douglas-fir, western hemlock, and western redcedar. Hardwoods are almost non-existent within the stand. Productivity varies between site-class 3 and 5, with areas of Douglas-firs ranging up to 40+ inches dbh and 160 feet in height to very low site, rocky soils with trees near 6-12 inches dbh and 80 feet in height. A legacy of snags (in advanced decay) in the larger diameter class and of variable height can be found throughout the stand. Understory species are sparse and consists of Oregon grape, salal, sword fern and huckleberry.

This proposal will be logged by a combination of high lead (cable) and tracked grapple-equipped excavator (shovel) and/or wheeled feller buncher/forwarder on slopes less than 25%.

Objectives: This proposal will generate revenue for the Forest Board and Common School Trusts (01, 03); minimize soil and water quality impacts; provide access for forest management activities; retain and enhance future long- and short-term forest structural diversity; protect habitats and functions of typed waters; and meet or exceed requirements of the HCP, Forest Resource Plan, and Forest Practice Rules.

- c. Road activity summary. See also forest practice application (FPA) for maps and more details.

| Type of Activity                  | How Many | Length (feet) (Estimated) | Acres (Estimated) | Fish Barrier Removals (#) |
|-----------------------------------|----------|---------------------------|-------------------|---------------------------|
| Construction                      |          | 6,988                     | 2.3               | N/A                       |
| Reconstruction                    |          | 17,512                    |                   | 0                         |
| Abandonment                       |          | 7,384                     | 2.5               | 0                         |
| Bridge Install/Replace            | 0        |                           |                   | 0                         |
| Culvert Install/Replace (fish)    | 0        |                           |                   | 0                         |
| Culvert Install/Replace (no fish) | 35       |                           |                   |                           |

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. (See timber sale map. See also color landscape/WAU map on the DNR website <http://www.dnr.wa.gov> under "SEPA Center.")

- a. Legal description: Harvest in portions of Sections 28 and 33; road right-of-way in Section 32; rock pit in Section 20 - all in Township 40 North Range 05 East, W.M.
- b. Distance and direction from nearest town (include road names): Sale area is approximately one mile due west of the community of Kendall and six miles northeast of Deming. Follow SR 542 to milepost 20.8. Travel west on forest road U-1000 four miles and north on P-1000 0.1 miles. Continue east on P-1500 0.3 miles and north up P-1510 0.8 miles to start of new construction.

- c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website <http://www.dnr.wa.gov> under “SEPA Center.”)

| WAU Name | WAU Acres | Proposal Acres |  | Sub-basin | Acres | Proposal Acres |
|----------|-----------|----------------|--|-----------|-------|----------------|
| Deming   | 27,812    | 107 gross ac.  |  | 4         | 4,906 | 107 gross ac.  |

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website <http://www.dnr.wa.gov> under “SEPA Center” for a broader landscape perspective.)

**The following information is derived from local knowledge, Region WAU maps (05/10/04), DNR Planning and Tracking database and Region WAU SEPA reports and maps (06/07/04).** This proposal is located on the east slopes of Sumas Mountain.

| Name of WAU or Sub-basin | Total Acres | DNR Managed Forested Acres | Privately Managed Acres | Percent DNR Managed Forest land | Percent Private and USFS Managed land | Hydrologically Mature Acres on DNR Managed Land | Percent Hydrologically Mature DNR Managed Land | Proposal Acres |
|--------------------------|-------------|----------------------------|-------------------------|---------------------------------|---------------------------------------|---|--|----------------|
| Deming                   | 27,812      | 10,363                     | 17,449                  | 37%                             | 63%                                   | 6,840   | 66%  | 107 gross      |

Of the total 4,907 acres within sub-basin 4, the DNR manages 1,810 acres, or 37%. The remainder of this sub-basin consists of agricultural and residential lots along the river valley and some private forestlands adjacent to DNR lands. During the past seven years, only nine acres of even-aged and seven acres of uneven-aged harvests have occurred on DNR lands within sub-basin 4. Private forestlands have experienced 1,500 and 1,475 acres of even-aged and uneven-aged harvests, respectively. No other sales are currently scheduled on state lands within this sub-basin. Less than 1/3 of this basin lies within the SROS zone and is not managed for rain-on-snow events.

Considering the entire Deming WAU during the past seven years, a total of 3,241 acres have been harvested by even-aged methods (1,467 acres on DNR), while 1,653 acres were harvested by uneven-aged methods (18 acres on DNR). Sales currently sold and logged on DNR lands include: the 98-acre Smithie (Sub 1) and 57-acre Welcome North (sub 2) timber sales. Sales currently sold but not yet harvested include the 148-acre Deming Lookout (Sub 1 and 2) and 64-acre Deming Top (Sub 2) timber sales. Scheduled DNR sales include the 130(+/-)-acre Bell Ringer (Sub 2) and 112-acre Leftover Jam regeneration harvests. At least 63% of DNR lands within this WAU will remain hydrologically mature once all sold and scheduled sales are complete.

Cumulative impacts are mitigated through Standard Forest Practice Rules and implementation of HCP requirements. Issues considered and mitigated include unstable slopes, water quality issues, erosion and wildlife habitat concerns. Areas with potentially unstable slopes were eliminated from the harvest area. To mitigate water quality issues and erosion, roads will be surfaced with gravel and have adequate drainage structures to maintain natural drainage patterns. Road construction and ground-based harvesting may be restricted to dry periods to minimize erosion. Spur A and proposed extension of P1510 roads will be abandoned at the conclusion of the sale. The site will be replanted during the first planting season after harvest. All active, proposed and planned future activities will continue to follow the Forest Practices Rules, Forest Resource Plan, Implementation Agreement, Incidental Take Permits, and HCP. This will ensure that all environmental issues are adequately mitigated, and the chance of environmental impact is minimized.

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☒Steep Slopes, ☐Mountainous, ☐Other:

- 1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone). The Deming WAU ranges from 400 feet to 3,300 feet in elevation. Predominant landforms include valley flatlands and terraces along the north side of the Nooksack River and the North Fork Nooksack River, the south and east flanks of Sumas Mountain, and the southwest flank of Red Mountain. The mountain slope soils are generally formed from volcanic ash, colluviums, and glacial till overlying Chuckanut sandstone and phyllite bedrock that have been weathered by glaciers and streams into steep mountainous slopes, with deeply incised stream channels. The deposition zone at the base of the stream channels has created alluvial fans with low gradient streams crossing the river terrace. The Nooksack River meanders across the wide glacial valley. Within the WAU are the following major stream sub-basins: Smith and eastern tributary forks, McCauley, Mitchell Creeks, Bell Creek, Coal creek, north & west Kendall Creek, and east Kendall Creek. Many streams with incised channels have had shallow-rapid slides and debris flows. There are pre-1800 deep-seated rotational slumps in Smith, McCauley, Mitchell, Bell and Coal creek basins. Some have not achieved surface equilibrium.

The climate is typical of North Temperate Zone forests, and influenced by Puget Sound marine flow, the Fraser River valley outflows, and Mt. Baker. Seventy percent of the WAU receives 60-70 inches of rainfall per year.

The valley floor and terraces are mostly rural farmland and dispersed residential. The communities of Deming, Welcome, and Kendall are along the SR 542. The forested hill and mountain slopes are primarily state trust and non-industrial landowners. Ninety percent or more of the WAU was harvested the first time before 1920. Most of the harvested lands experienced fire shortly after harvest. The current stands in the 40+ year age classes were naturally regenerated. Stand ages range from one to 200+ years. The valley lowlands are mostly hardwoods. The hill slopes transition from red alder, big leaf maple, black cottonwood, to mixed hardwood/conifer stands, to Douglas-fir/western redcedar/western hemlock to Pacific silver fir/hemlock stands at upper ridges and mountain tops.

- 2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s). The proposal area lies on gentle to extremely steep terrain with almost no water on the surface. Much of the northern half of the unit is on a very old deep-seated slide.

- b. What is the steepest slope on the site (approximate percent slope)?  
**Rock outcrops occur along the head and side scarp ridges of the very old, deep-seated slide. Less than 2% is on slopes exceeding 90%.**
- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on landform shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

| State Soil Survey # | Soil Texture       | % Slope | Acres | Mass Wasting Potential | Erosion Potential |
|---------------------|--------------------|---------|-------|------------------------|-------------------|
| 0138                | Gravelly loam      | 60-90   | 8     | High                   | High              |
| 5602                | Very gravelly loam | 8-30    | 26    | Insignificant          | Low               |
| 5603                | Very gravelly loam | 30-60   | 12    | Medium                 | Medium            |
| 5711                | Silt Loam          | 5-30    | 8     | Insignificant          | Medium            |
| 5712                | Silt Loam          | 30-60   | 42    | Medium                 | High              |
| 0694                | V. Gravelly Loam   | 15-30   | 11    | Insignificant          | Medium            |

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.
- 1) *Surface indications:* **The ridge top north boundary of the southeast lobe and a steep ridge running just parallel to proposed P-1510 (in unit) road were formed as scarps of a very old deep-seated slide (hundreds of acres), resulting in much of the northern half of the unit being within the old slide. However, there is no recent evidence of slope movement or instability within this ancient feature. There is potential for surface raveling on the short steep slope pitches below these ridges during log yarding operations. See hydrologist/geologist memo date, June 10, 2004.**
  - 2) *Is there evidence of natural slope failures in the sub-basin(s)?*  
☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:  
**Aerial photo interpretation indicates that there are incised channels ¼ mile north of the unit that may have experienced shallow-rapid slumps along the banks. See B.1.d.1. above.**
  - 3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*  
☒No ☐Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:  
*Associated management activity:* **None known**
  - 4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*  
☐No ☒Yes, describe similarities between the conditions and activities on these sites:  
**The proposal is on an inactive deep-seated slide dating thousands of years back. There are no incised channels in or adjacent to the unit.**
  - 5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.* **No roads will be constructed on the very old deep-seated slide. New road construction will only cross one type 5 stream and will remain mostly on ridge top topography on well-drained slopes. Timber harvest will not occur over or near inner gorge side slopes. Yarding will be done primarily by cable systems with lead end suspension to minimize ground disturbance. Shovel yarding and/or feller-buncher will also be permitted along spur roads, where slopes are less than 25%. Roads will be crowned, ditched and cross-drained, surfaced with gravel and constructed according to Forest Practice standards. Road surface runoff will be collected into roadside ditches and discharged onto stable areas of the forest floor through ditches and cross-drain culverts. Road construction and hauling will be restricted between November 1 and March 31. Exposed soils will be re-vegetated following completion of road construction. Rocked headwalls will be constructed at inlets to culverts and rock energy dissipaters placed at culvert outlets. After harvest is completed, new portions of the P-1510 (except rerouted portion) and Spur A will be abandoned according to the NW Region Road Abandonment Standards. Landing debris will not be left in a perched position over steep slopes.**
- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.  
*Approx. acreage new roads:* **2.3 ac** *Approx. acreage new landings:* **1 ac** *Fill source:* **On-site native materials and rock from the existing P-1700 rock pit will be used for fill over culverts, road and landing construction.**
- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. **Erosion could result from road and landing construction during periods of heavy rainfall or as a result of yarding during periods of soil saturation. Additionally, erosion could result if ditches and culverts are not properly installed and maintained during and after the harvest operation. Road use during unfavorable weather conditions may contribute to an increased potential for surface erosion.**
- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*  
**No impervious surfaces are proposed. Spur A and 45 stations on the P-1510 gravel road will be abandoned upon completion of the proposal. Ten percent of proposed new construction will remain in permanent gravel surface. This means that approximately 0.2% of the proposal remains in permanent gravel road.**
- h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:  
*(Include protection measures for minimizing compaction or rutting.)*

See B.1.d.5. Harvested areas will be reforested with Douglas-fir and/or western redcedar within two years of the expiration of the contract. Prudent road construction techniques and road maintenance schedules will continue to be implemented on all active roads following harvest.

2. Air

- a. What types of emissions to the air would result from the proposal (i.e., dust from truck traffic, rock mining, crushing or hauling, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known. **Minor amounts of equipment exhaust from trucks, crew vehicles, chain saws and yarding equipment. Wood smoke if landing slash is burned. Dust from vehicle traffic during extended periods of dry weather.**
- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. **No**
- c. Proposed measures to reduce or control emissions or other impacts to air, if any: **Slash burning if done, will be done with a burning permit under smoke management guidelines.**

3. Water

- a. Surface:
- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. (See timber sale map and forest practice base maps.)  
**A type 5 stream originates 300 feet north of the northeast corner of the southeast portion of the proposal. Another type 5 stream originates 200 feet north of the northwest boundary and follows the north boundary onto private land to the east, where it soon becomes a type 4 water due to basin size. DNR water-typing maps show two other type 4 streams within the north half of the proposal area. However, there is no evidence of surface flow at these locations; these two features are not typed waters.**
- a) Downstream water bodies: **Kendall Creek and North Fork Nooksack River**
- b) Complete the following riparian & wetland management zone table:
- | Wetland, Stream, Lake, Pond, or Saltwater Name (if any) | Water Type | Number (how many?) | Avg RMZ/WMZ Width in Feet (per side for streams) |
|---|------------|--------------------|--|
| <b>Stream</b>   | <b>5</b>   | <b>2</b>           | <b>Variable</b>                                  |
|   |            |                    |  |
- c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.  
**A variable width buffer averaging 15-20 feet was placed on the type 5 stream that forms the north boundary. Region Soils Specialist/Hydrologist requested this buffer to provide some protection on the channel and banks along slightly incised sections. Roads have been located to avoid unstable slopes and minimize stream crossings.**
- 2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.  
☐No ☒Yes (See RMZ/WMZ table above and timber sale map.)  
Description (include culverts): **Harvest will occur up to the edge of the north boundary type 5 stream. Cables may be suspended over the channel, however, yarding will not occur across the channel.**
- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.  
**None**
- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. (Include diversions for fish-passage culvert installation.)  
☒No ☐Yes, description:
- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.  
☒No ☐Yes, describe location:
- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.  
☒No ☐Yes, type and volume:
- 7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water? **The following is from Region GIS database dated January 22, 2002**

| Surface Erosion Potential |                  |     | Mass Wasting Potential |     |
|---------------------------|------------------|-----|------------------------|-----|
| Deming                    | Low              | 43% | Low                    | 5%  |
| WAU                       | Medium           | 30% | Medium                 | 12% |
| Sub-4                     | High             | 26% | High                   | 23% |
|                           | No data/Variable | 1%  | Insignificant          | 60% |
|                           |                  |     | No data                | 0%  |

**There is only a minimal chance that eroded materials could enter surface water due to long distance to downstream water bodies and avoidance of road construction over typed waters.**

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?  
☐No ☒Yes, describe changes and possible causes:

See B. 1. c. & B. 1. d. above. The main stem and larger tributaries of Bell, Smith and McCauley Creeks have been affected by debris inputs from mass wasting events primarily on inner gorge slopes.

- 9) Could this proposal affect water quality based on the answers to the questions 1-8 above?  
☒No ☐Yes, explain:
- 10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?  
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?  
☒No ☐Yes, describe: **Deming WAU: 4.4 Sub basin 4: 5.3**
- 11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.  
☐No ☒Yes, approximate percent of WAU in significant ROS zone. **37%**  
Approximate percent of sub-basin(s): **32.6%**
- 12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?  
**Within sub-basin 4, the DNR manages 75.6% (1,211 acres) of the SROS zone, of which 56.6% is hydrologically mature. It is not known what percentage of other ownerships is hydrologically mature within the rain on snow zone.**
- 13) Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?  
☐No ☒Yes, describe observations: **See B.3.a.8. & B.1.d.3**
- 14) Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact. **Sub-basin 4 is not managed for SROS events since less than 1/3 of the sub-basin is within the SROS zone. Since the proposal is a regeneration cut, precipitation that is normally dissipated in the tree canopy will come in contact with the understory brush and forest litter covering the forest floor. As a result, surface run-off may peak sooner during storm events than in neighboring standing timber. However, leave tree clumps and individually scattered trees should help reduce the impacts to the overall peak flows within the WAU and sub-basins.**
- 15) Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?  
☒No ☐Yes, possible impacts:
- 16) Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts. **See B.1d 5., B.1.h., B.3.a.1.c. B.3.a.14**

b. Ground Water:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known. **Road cross drains may capture shallow surface water and increase ground water recharge directly below culvert outlets. This will increase surface saturation in localized areas, but it is not expected to decrease ground water. Ultimately, all ground water will return to the sub-surface.**
- Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. **Small amounts of oil and other lubricants may be discharged as a result of heavy equipment use. No lubricants will be disposed of on site.**
- 3) Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?  
☒No ☐Yes, describe:
- a) Note protection measures, if any. **See B.3.a.16**

c. Water Runoff (including storm water):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. **Sources will be rainfall and snow. Storm water and intercepted ground water from road cut banks will be collected into roadside ditches and discharged onto stable areas of the forest floor. Runoff eventually reaching typed waters could flow into the Nooksack River.**
- 2) Could waste materials enter ground or surface waters? If so, generally describe. **None is anticipated other than some logging slash in non-fish, seasonal streams or accidental, minor local spills of petroleum products may occur on roads or landings.**
- Note protection measures, if any. **. DNR staff will emphasize contractor compliance to current laws governing hazardous spills and disposal of hazardous wastes. Conform to timber sale contract regarding installation and maintenance of roadside ditches and cross-drain culverts.**

- d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:  
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

4. Plants

- a. Check or circle types of vegetation found on the site:

☐deciduous tree: ☒alder, ☒maple, ☐aspen, ☐cottonwood, ☐western larch, ☐birch, ☐other:  
☐evergreen tree: ☒Douglas fir, ☐grand fir, ☐Pacific silver fir, ☐ponderosa pine, ☐lodgepole pine,  
☒western hemlock, ☐mountain hemlock, ☐Englemann spruce, ☐Sitka spruce,  
☒red cedar, ☐yellow cedar, ☐other:  
☐shrubs: ☒huckleberry, ☒salmonberry, ☒salal, ☒other: **Oregon grape**  
☐grass  
☐pasture  
☐crop or grain  
☐wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☐devil's club, ☐other:  
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:  
☐other types of vegetation:  
☐plant communities of concern:

- b. What kind and amount of vegetation will be removed or altered? (See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.) **Second-growth conifer and hardwoods will be removed from 95 net acres plus two additional acres of road right-of-way. Some immature trees and snags may be felled and/or left for safety or merchantability reasons. Associated understory vegetation may be disturbed by logging or road building activities within the sale boundary. The current stand will be replaced with a managed Douglas-fir, and western redcedar stand (hand planted), along with naturally regenerated western hemlock, red alder, and bigleaf maple. This managed stand will retain snags, dominant, co-dominant and/or structurally unique trees to increase horizontal and vertical diversity over the landscape.**

- 1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: <http://www.dnr.wa.gov> under "SEPA Center.") **Southeast portion: a stand similar to the proposal stand shares the north boundary, but grows on very steep rocky terrain before transitioning to a young private stand; a 30+ year-old mixed conifer/hardwood stand forms the east boundary while a five-plus year-old conifer stand forms the southeast boundary; the stand just west and southwest consists of conifer ranging from 30 to 120 years old. North portions: A 30 year-old mixed conifer/hardwood stand lies to the south; a 10+ year-old conifer stand forms the west boundary; a stand comparable to the proposal stand forms the north boundary; a mixed conifer/hardwood stand exceeding 25 years in age forms the east boundary.**
- 2) Retention tree plan: **Retention tree plan emphasizes the preservation of snags where practical, large structurally unique trees, habitat diversity, visual buffers, wind-firmness and distribution across the landscape. A minimum of 1,048 individually scattered and clumped live and dead standing "green" trees (equal to seven percent of all trees >= 12" dbh) will remain throughout the harvest areas. Clumps account for ~12 acres, while scattered trees add up to about one acre of total area. DNR Forest Resource Inventory System was used as the basis for calculating minimum leave tree requirements, resulting in the retention of 9.8 trees per acre.**

- c. List threatened or endangered plant species known to be on or near the site.  
**DNR TRAX database indicates that there are no listed threatened or endangered species on or near the proposal area.**
- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:  
**See: B.4.b.2 above. Native conifer species of similar site stock (~360 trees per acre) will be planted throughout the proposal area upon completion of the harvest. Naturally regenerated western hemlock and red alder will also be managed with planted conifers.**

## 5. Animal

- a. Circle or check any birds animals or unique habitats which have been observed on or near the site or are known to be on or near the site:
- birds: ☐hawk, ☐heron, ☐eagle, ☒songbirds, ☐pigeon, ☐other:  
mammals: ☒deer, ☒bear, ☐elk, ☐beaver, ☐other:  
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:  
unique habitats: ☐talus slopes, ☐caves, ☐cliffs, ☐oak woodlands, ☐balds, ☐mineral springs
- b. List any threatened or endangered species known to be on or near the site (include federal- and state-listed species).  
**DNR TRAX database indicates that there are no listed threatened or endangered species on or near the proposal area. Bald eagles have been observed soaring close to tree tops and riding thermals over this part of Sumas Mountain due to proximity to food sources along the North Fork Nooksack River only 1.5 miles east of the proposal. Short, vertical and overhanging rock faces to 20 feet in height exist along the north side of ridges running interior to the units. These rocks are densely forested and not easily accessible to predatory birds.**
- c. Is the site part of a migration route? If so, explain.  
☒Pacific flyway ☐Other migration route: Explain if any boxes checked:  
**All of Washington State is considered part of the Pacific flyway. No impacts are anticipated.**
- d. Proposed measures to preserve or enhance wildlife, if any: **See B.3.a.1.c., B.4.b.2. & B.4.d. above. Steep rock faces are included within leave tree patches to provide perch opportunities for birds visiting the area. These measures should create a diversity of wildlife opportunities across the landscape.**
- 1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.  
Species /Habitat: **None** Protection Measures:

## 6. Energy and Natural Resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. **Does not apply**
- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. **Does not apply**

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: **No**

**7. Environmental Health**

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe. **There is a minimal spill hazard due to heavy equipment operations. There is also potential fire hazard if operating under fire weather condition.**
- 1) Describe special emergency services that might be required.  
**During harvest operations there may be a short term need for: Department of Ecology approved contract Haz-Mat clean up crews, Rural fire district crews, DNR forest fire response crews and Rural Fire District EMT's and Paramedics for responding to accidents or forest fires.**
- 2) Proposed measures to reduce or control environmental health hazards, if any:  
**See: B.3.c.2.a above and contract enforcement of forest fire protection rules.**
- b. Noise
- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? **None**
- 2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.  
**There will be localized equipment noise during daylight hours on a short-term basis from logging equipment: yarders, loaders, dozers, trucks, chain saws during road construction and logging.**
- 3) Proposed measures to reduce or control noise impacts, if any: **None**

**8. Land and Shoreline Use**

- a. What is the current use of the site and adjacent properties? (*Site includes the complete proposal, e.g. rock pits and access roads.*) **Commercial Forestry**
- b. Has the site been used for agriculture? If so, describe. **No**
- c. Describe any structures on the site. **None**
- d. Will any structures be demolished? If so, what? **No**
- e. What is the current zoning classification of the site? **Commercial Forestry District**
- f. What is the current comprehensive plan designation of the site? **Commercial Forestry District**
- g. If applicable, what is the current shoreline master program designation of the site? **Does not apply**
- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify. **No**
- i. Approximately how many people would reside or work in the completed project? **None**
- j. Approximately how many people would the completed project displace? **None**
- k. Proposed measures to avoid or reduce displacement impacts, if any: **Does not apply**
- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:  
**This harvest has been designed to comply with current Whatcom County Comprehensive Plan, Forest Practice Regulations, the DNR Forest Resource Plan, and the DNR-US Fish and Wildlife Service Habitat Conservation Plan.**

**9. Housing**

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. **None**
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. **None**
- c. Proposed measures to reduce or control housing impacts, if any: **None**

**10. Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed? **Does not apply**
- b. What views in the immediate vicinity would be altered or obstructed? **None**
- 1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*  
☐ No ☒ Yes, viewing location: **This proposal is visible in the background from residential areas along the North Fork Nooksack River and Kendall.**
- 2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*  
☐ No ☒ Yes, scenic corridor name: **This proposal is visible in the background from brief segments of the Mt. Baker Scenic Highway, westbound between Maple Falls and Kendall. It is also visible in the background for about two minutes northbound on the same Highway between milepost 21 and Kendall.**
- 3) *How will this proposal affect any views described in 1) or 2) above?* **Views towards portions of the sale area will change from a mature conifer stand to an opening where conifer species will be replanted and appear green in about five years after planting. No views will be obstructed since the timber stand is near a ridge top nearly 2000 feet above the valley floor where residences and public roads exist.**

- c. Proposed measures to reduce or control aesthetic impacts, if any:  
**The dispersal of harvest units over the ownership landscape over time allows for “green-up” of previously harvested units or green belts between units. The use of wildlife tree patches and visual buffers on slopes facing residences will break up the appearance of the harvest unit. Much of this proposal will be out of sight, behind specially selected leave clumps. The harvest area will be planted with native conifer species upon completion of the harvest.**

**11. Light and Glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? **Does not apply**
- b. Could light or glare from the finished project be a safety hazard or interfere with views? **Does not apply**
- c. What existing off-site sources of light or glare may affect your proposal? **None**
- d. Proposed measures to reduce or control light and glare impacts, if any: **None**

**12. Recreation**

- a. What designated and informal recreational opportunities are in the immediate vicinity?  
**Informal: hunting, motorized vehicle riding, hiking, and mushroom, brush, and berry picking.**
- b. Would the proposed project displace any existing recreational uses? If so, describe: **No**
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: **None**

**13. Historic and Cultural Preservation**

- a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe. **No**
- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site. **None known**
- c. Proposed measures to reduce or control impacts, if any:  
*(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)*  
**Presented draft proposal to the Lummi Nation and Nooksack Tribe at yearly action plan meeting and sent updated maps to each during the time of field layout of roads and harvest boundaries. No tribal comments received. Conducted search of TRAX database.**

**14. Transportation**

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any. **SR 542 (Mt Baker Scenic Highway)**
- 1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?* **No**
- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop? **No. The nearest Whatcom Transit Authority stop is in Kendall, one mile east of this proposal.**
- c. How many parking spaces would the completed project have? How many would the project eliminate? **None**
- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private). **See A.11. See also associated FPA Roads Section and road plan available at the NW Region DNR office.**
- 1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*  
**All new roads will be abandoned at the conclusion of the harvest (Except seven stations of rerouted portion of P-1510). Increased truck traffic will occur as a result of log hauling for short periods during the duration of this proposal.**
- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. **No**
- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur. **None after harvest is completed. During peak harvest activity (30-60 days) there are expected to be 15 log trucks and three to five pick-up or crew vehicle round-trips daily entering and leaving SR 542.**
- g. Proposed measures to reduce or control transportation impacts, if any: **None**

**15. Public Services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe. **No**
- b. Proposed measures to reduce or control direct impacts on public services, if any. **None**

**16. Utilities**

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other. **Does not apply**
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity that might be needed. **Does not apply**